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**The Division: Redundant or Necessary?**

**A Monograph  
by  
Major Joseph E. Martz  
Armor**



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**School of Advanced Military Studies  
United States Army Command and General Staff College  
Fort Leavenworth, Kansas**

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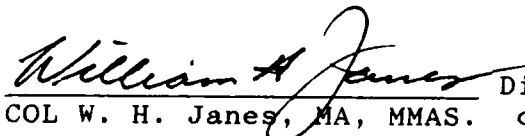
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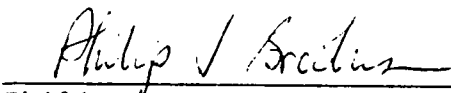
Major Joseph E. Martz

Title of Monograph: The Division: Redundant or  
Necessary?

Approved by:

 Monograph Director  
LTC James W. Townsend, M.ed.

 Director, School  
COL W. H. Janes, MA, MMAS. of Advanced  
Military Studies

 Director, Graduate  
Philip J. Brookes, Ph.D. Degree Program

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# ABSTRACT

The Division: Redundant or Necessary? by Major Joseph E. Martz, USA. 44 pages.

AirLand Battle - Future (ALB-F) concepts portray a battlefield, where smaller, highly mobile, and self-contained forces maneuver to decisive points revealed by accurate sensor technology. The corps and brigade roles expand in ALB-F, while the role of the division is greatly reduced. Since nonlinearity dictates an expansion in battlefield space, it is imperative that force designers consider designs that will save time in both planning and executing ALB-F operations.

This monograph examines the history of the division to demonstrate how it has developed as technology and how mass armies have influenced the battlefield. The evaluation criteria, developed from Clausewitz's discussions on space, time, and mass, describe the three critical dimensions of battlefield operations. Coupled with a description of current C<sup>3</sup>I capabilities, the necessity to retain the division within the context of ALB-F is evaluated.

This study concludes that the division can be eliminated for three reasons. First, C<sup>3</sup>I technology available at the brigade level will allow the brigade to communicate directly with the corps. Secondly, the division will simply be a redundant close operation headquarters as its deep operations assets are removed to the corps level. Finally, time, probably the most critical dimension on the battlefield, will be saved through the elimination of a redundant level of command and control.

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## I. INTRODUCTION

"Before looking at future force structures [*designs*] in any detail, we need to rid ourselves of a sacred cow - the division. This is in fact no more than another step down an evolutionary path marked out by technological advance. The "division" is an ancient and important tactical concept, but the idea of a division as a key organizational formation does not seem to go back much beyond the middle of the nineteenth century."<sup>1</sup>

Following the the Vietnam War the United States Army contracted in size for two reasons. First, it was not engaged in large scale combat anywhere. Secondly, a large standing army cost too much to maintain in peacetime. This reduction process has affected the American Army after each of its wars, to include the "cold war."

In the process of reducing the Army's size, Congress, because of its fiscal responsibilities, sets the authorized force structure. *Force structure* is the total manpower authorized.<sup>2</sup> With the mandated force structure, the Army leadership executes the force design process. *Force design*, the arrangement of available force structure into units designed to fight effectively in the next conflict, is determined by the Army.<sup>3</sup>

Force design decisions, however, have produced the conditions for debacles like those experienced by the 24th Infantry Division as it entered combat in the Republic of Korea in June 1950. Equipment and training

deficiencies aside, the Army leadership had created a doctrine that did not match the force design for short notice (contingency) situations. Army doctrine was based on "triangular" units. However, the impact of the force structure ceiling, coupled with the Army leadership's desire for as many divisions as possible, caused each regiment to have only two active battalions. Since regimental commanders had been practicing for a war that would allow time for activation of the third battalion, the short notice deployment produced hard lesson.<sup>4</sup>

After Vietnam the Army leadership took a different approach to force design as the Army was reduced once again. The active component/reserve component (AC/RC) mix (present even today) in the United States Army's heavy divisions differed from the Army's Korean experience. Since fighting at the tactical level was accomplished by brigades, which had replaced the regiment as a command and control level, all active component brigades would have all of their battalions present. At the division level the force design produced a mix of brigades that were one-third reserve and two-thirds active. The simple result, however, still placed one-third of the division's combat power in the reserve component.

"CAPSTONE", a concept initiated to more closely link the reserve component brigade to its active parent

division, currently drives many decisions, such as fielding of new equipment to Reserve brigades.

"CAPSTONE" is, however, designed for a future war scenario where time is available to bring Reserve Component brigades "up to speed."<sup>5</sup> As such, contingency operations, like Saudi Arabia, encourage the political and military leadership of our country to use active component brigades because of their readiness levels.

Since 1975 three trends have undermined "CAPSTONE." First, two of the six heavy divisions (2d Armor Division and 1st Infantry Division) have forward deployed brigades in United States Army Europe (USAREUR) in addition to their Reserve Component brigades. Second, as the current deployment to Saudi Arabia demonstrates, our civilian leaders will simply send the active portions of a division and thereby avoid the political pain of immediately federalizing reserve combat forces. And third, in every Army combat deployment since 1975, Army units have deployed by brigade.

For example, the current deployment of heavy forces to Saudi Arabia boasts elements of three heavy divisions and one separate mechanized brigade. These heavy divisions should provide 1,044 M1 tanks for combat. Because of the ongoing deactivation of one of the divisions and the deployment of only active component brigades, the M1 tank force total consists of



approximately 580 tanks or 56% of what could be there if the divisions consisted of only active component units.<sup>6</sup>

The United States Army's Korean and Saudi Arabian experiences beg the question: Why have a heavy division designed for medium-to high-intensity combat when the division is not designed for active force manning? This question, when combined with current command and control advances, leads to a second question: If we do not gain a full division from current force design, can the division be eliminated as a level of command and control?

Abolishing a level of command and control is a current topic for the following three reasons. First, AirLand Battle Future concepts indicate that the battlefield of the future will not only be characterized by greater dispersion, but also by nonlinear battle.<sup>7</sup> Second, commanders will use enhanced command and control technology to control their own forces and to precisely monitor those of the enemy. And third, other armies, like the Soviet's already have reduced command and control structures with one less level, through the elimination of the corps.<sup>8</sup>

These three issues relate directly to the concept of span of control. "Control is the supervision of subordinates."<sup>9</sup> It follows that span of control is the

capability of an organization to supervise efficiently its subordinate units. U.S. Army Field Manuals typically define the span of control for the battalion, brigade, division, and corps as two to five maneuver units. These numbers are derived from the traditional structure that has existed, with minor exception, since World War II.<sup>10</sup>

The problem is that technology has advanced while force design has not. For example, a typical mechanized infantry battalion has five organic maneuver elements (four line companies and one antitank company). Likewise, the fictitious 10th U.S. Corps, used for Command and General Staff College (CGSC) exercises, typically has seven maneuver elements assigned during its operations (four divisions, one separate brigade, one armored cavalry regiment, and one aviation brigade). Clearly, the traditional "norms" for span of control are being exceeded by the vision of future battle and technology.

Each army prepares for its next war by examining trends to predict the characteristics of future conflict. To plan for equipment and doctrine changes, a vision of future battle must first be established. Planners today foresee a nonlinear battlefield dominated by dispersed, highly mobile, self-contained units maneuvering to the decisive points revealed by accurate sensor technology.<sup>11</sup> It is obvious that this

vision of future battle is greatly effected by the impact of new technologies.

Technology effects span of control in two ways. First, it causes greater dispersion on the battlefield. Secondly it provides better means to monitor more units over a wider area. Today's tactical units cover far more terrain than their World War II predecessors.<sup>12</sup> This dispersion makes time a greater factor simply because the movement of forces to mass takes more time. Since each level of command and control consumes planning time, it follows that elimination of a command and control level would save critical time.

Other armies, mainly the Warsaw Pact forces, eliminated the corps from their structure over twenty years ago. This organizational change increased span of control problems, but also saved time in their planning process. Given their use of planning "norms" and their tremendous investment in command, control, communication, and intelligence (C<sup>3</sup>I) equipment, it is possible that they would have a significant "decision cycle" advantage over an opponent with more command and control levels.<sup>13</sup>

The purpose of this monograph is to examine whether or not a level of command and control within the corps structure can be eliminated to improve tactical efficiency and tactical effectiveness. Tactical efficiency is the measure of a unit's ability

to perform its mission with a minimum of unnecessary effort. Tactical effectiveness is the measure of a unit's ability to perform its assigned mission. In other words, can the corps function quicker with the elimination of the division as a level of command and control. The AirLand Battle Future concepts, currently being developed by the Concepts and Doctrine Directorate, CGSC at Fort Leavenworth, provide the context with which to investigate this issue.

This monograph will explore the elimination of the division, as a level of command and control within the context of AirLand Battle Future concepts through the following steps. First, the criteria for evaluating the thesis will be developed. Second, AirLand Battle Future concepts will be described. Third, the evolution of the division will be delineated to demonstrate the relationship of organizational change to the impacts of technology and doctrine. Fourth, the impact of eliminating the division will be evaluated using the defined criteria. And lastly, the conclusions and implications will be presented.

## II. CRITERIA

"Taken as a whole, military forces, for all the imposing array of electronic gadgetry at their disposal give no evidence of being one whit more capable of dealing with the information needed for the command process than were their predecessors a century or even a millennium ago."<sup>14</sup>

The best criteria to measure whether or not the division can operate effectively within the framework of AirLand Battle - Future are space, time, and mass. Space, time, and mass are to the battlefield as hits, runs, and errors are to a baseball game. They are guides to understanding the outcome of the event. A team with ten hits but only one run has demonstrated an inability to mass hits at the decisive time. Likewise a team that loses by one run and commits two errors displays a problem with timing. Although this analogy is not complete or exact, it is meant to convey a sense of the importance of space, time, and mass to forces competing on the battlefield.

There is not a single battle whose outcome cannot be explained in terms of space, time, and mass. Antietam, in my opinion Robert E. Lee's greatest effort, demonstrated his magnificent grasp of space and time relationships as he negated McClellan's advantage in mass. The Little Big Horn was an instance where errors in time and mass could not be overcome even in the wide open space of the high plains. World War I,

on the Western Front, was an exhaustive effort to come to grips with new concepts of space, time, and mass.

A recent article in Military Review criticizing the United States Army's National Training Center (NTC) highlighted space, time, and mass in evaluating the worth of training conducted there.

For this expenditure (plus \$7 million to \$10 million per unit rotation) we demonstrate that mass and momentum can crush a defense. This bit of wisdom has been known since the Egyptians used chariots to defeat the Syrians in 1468 B.C.<sup>15</sup>

The author, by using the terms mass and momentum, simply described space, time, and mass in a different fashion. Momentum is the product of mass times velocity. And the components of velocity are distance (space) and time. Physics depends on these natural relationships to explain the operation of the physical world around us.

Clausewitz used these terms to explain physical relationships on the battlefield. It was only natural for Clausewitz, the military theorist, to draw upon the new field of physics to find insights into the physical realities of the battlefield.<sup>16</sup> Clausewitz introduced these three terms in his discussion of strategy but pointed out in each chapter that each had tactical implications.<sup>17</sup>

To use these three criteria risks a great deal in terms of clarity. This is because, although Clausewitz

found them important enough to introduce, he did not find them important enough to define.

For the purpose of this monograph the following definitions will apply:

Space: the area created by the requirement to achieve mass over time.

Time: the calculation determined to achieve mass at a designated point in space.

Mass: the concentration of combat power at the decisive time and place.<sup>18</sup>

In order to apply these three terms as the criteria for this monograph, they must be related to the tenets of AirLand Battle. This connection must be clear since AirLand Battle tenets will remain intact within the concept of AirLand Battle - Future. First, *agility* is the ability of a unit to use time to gain an advantage over its enemy.<sup>19</sup> *Initiative* is the sum of using space, time, and mass to set the terms of battle by action.<sup>20</sup> *Depth* is the extension of operations in space, time, and mass.<sup>21</sup> Finally, *synchronization* is the arrangement of battlefield activities in time, space, and purpose to produce mass at the decisive point.<sup>22</sup>

In summary, space, time, and mass possess the qualities required in research criteria for this monograph. First, they are timeless in their application in understanding battle results. Second, they are integral to the definitions of the tenets of

AirLand Battle. And finally, the first two qualities imply a predictive property that might be useful in examining organizations within future oriented concepts.

The criteria will be applied to evaluate the division as a necessary command and control structure in the following manner. Within the context of AirLand Battle - Future, the division's requirements relating to space, time, and mass will be evaluated to assess if elimination of the division as a command and control level is possible.



### III. AIRLAND BATTLE - FUTURE

"I am tempted to declare dogmatically that whatever doctrine the Armed Forces are working on now, they have got it wrong."<sup>23</sup>

AirLand Battle Future (ALB-F) is a concept the United States Army is developing to prepare for future war. As such it is not yet doctrine but merely a vehicle to analyze technological trends that may provide the impetus for doctrinal change. This chapter examines the ALB-F concept as of August 1990.

ALB-F departs from current doctrinal concepts (AirLand Battle) in that it accepts nonlinear battle as a condition and not a probability.<sup>24</sup> AirLand Battle (current doctrine) accepts that nonlinear combat will occur but is essentially based on the fact that linear warfare will be the norm.<sup>25</sup> Clearly, the requirements for both AirLand Battle doctrine and ALB-F are very different.

This difference highlights the following characteristics of ALB-F.

- a. Rapid decision making.
- b. Strong command systems.
- c. Reliable control systems.
- d. Offensive orientation at the tactical level.<sup>26</sup>

These differences were derived from computer simulations conducted for three geographically and climatically distinct regions of the world (Central

Europe, Southwest Asia, and Korea). The following trends resulted from the simulation process.

- a. The battlefield will become nonlinear.
- b. Sensor technology will provide near perfect intelligence.
- c. Long range fires (nonnuclear) will be accurate and lethal.<sup>27</sup>

The implications and trends of ALB-F demand rapid departure from current force designs for fixed tactical formations like the division and the brigade. The ALB-F planners realize this and propose several modifications to current force designs. However, since the purpose of this monograph is not to evaluate ALB-F itself, only the salient points follow.

- a. ALB-F is a corps commander's fight. As such all deep assets such as long range fires and attack helicopters will be retained at his level so that he can set the conditions for battle.
- b. Each corps will gain an additional armored cavalry regiment to complement the new sensor technology.
- c. The division will become a tactical headquarters with only maneuver brigades and a DIVARTY (Division Artillery). The aviation brigade and the DISCOM (Division Support Command) will be dispersed to corps and brigade levels.
- d. Fighting will be done by brigades that clearly begin to resemble the current self-contained, separate brigade organization.<sup>28</sup>

These modified organizations will follow a four step combat cycle on the nonlinear battlefield. First, *disperse* for survivability and non-detection. Second,

*mass* over time and space to fight. Third, *fight* at the decisive point. And finally, *disperse* for survivability and reconstitution.<sup>29</sup>

This cycle demonstrates a direct relationship to "Clausewitz's" concepts of space, time, and mass. Consequently, any unit designed for the ALB-F battlefield must be able move rapidly through space and time to mass. Another implication is that the force must be self-contained like the current armored cavalry regiments and separate mechanized brigades. For if an ALB-F unit must move as stated, it must have its combat service support elements organic and mobile.

The implications for ALB-F design are therefore simple.

- a. Corps remain tailored, flexible organizations.
- b. Brigades are the building blocks for fighting and must be self-contained.
- c. Command systems must be more versatile and agile.
- d. Logistic support units must possess a high surge capability and increased survivability.
- e. Reconnaissance, target acquisition, and long range fire units (ATACMS) will become more robust.<sup>30</sup>

An additional characteristic of the ALB-F battlefield is the increased depth and breadth associated with a unit's area of responsibility. For example, the Central European simulations for a single

corps were conducted in an area closely resembling the area currently designated for two US corps. That single corps contained two divisions, two ACR's and an increased amount of field artillery and helicopter brigades.<sup>31</sup> Besides the startling resemblance to current Conventional Forces Europe reductions, this simulation demonstrated that nonlinearity is a direct function of space and mass.

Within this nonlinear environment, the brigade is not expected to handle an increased frontage because it is oriented on massing at a decisive point in space. The division, on the other hand, is now extended in space by a factor of eight or nine times greater than World War I frontages.<sup>32</sup> Even though its logistical responsibilities are essentially eliminated by removing the DISCOM, the role of the division is diminished significantly as the corps fights its brigades through their cycles of combat.

Examination of the development of the division reveals that the division has undergone a cycle of similar changes since its creation in the 1760's.

#### IV. HISTORY OF THE DIVISION

"Generally, management of many is the same as the management of few. It is a matter of organization."<sup>33</sup>

The creation of the division resulted from changes in space, time, and mass relationships on the eighteenth century battlefield. Simply put, larger armies required more space. Accordingly, the force designers of the time needed to create new levels of command and control to handle the larger armies. Their solution to the span of control problem created by larger armies was the creation of the division. This chapter highlights the evolution of the division from 1760 until the present. Space, time, and mass relationships are highlighted to demonstrate the reasons for creating the division and the reasons for subsequent force design changes.

The evolution of the division as an important tactical organization predates the rise of mass armies by roughly twenty-five years. During this period Frederick the Great was the master of the battlefield. He typically fought armies that were larger than his. And although sometimes defeated in battle, his mastery of time and space relationships allowed him to mass at the decisive point to fight outnumbered and win or to stave off defeat.

Frederick achieved his strategic goals through his mastery of the tactical battlefield. He accomplished

this through efforts in three critical areas of tactical preparation. First, he conducted personal reconnaissance throughout his kingdom to grasp the relationships between space and time. Second, he executed a training program to insure that his troops could move and mass within the time and space constraints that he had calculated. Lastly, he introduced a program of officer education to insure that his senior leaders understood the contingency plans that allowed him to mass to fight his multitude of enemies.<sup>34</sup>

Through these extensive preparations for battle, Frederick was able to overcome span of control problems that plagued other European armies. Other countries could not militarize their peoples to achieve the same control mechanisms that Frederick could. For other nations, like France, span of control issues had to be addressed through other methods of change.

The French developed the concept of the division in response to their poor showing against Frederick's well-drilled regiments, that responded more quickly in battle. The French armies that opposed Frederick had no subordinate unit other than the regiment. This situation created span of control problems for the French.<sup>35</sup> They could not mass over time and space as quickly as Frederick's army because of his superior training and organization.

Marshal de Broglie and Duke de Choiseul are credited with developing the concept of the division in the 1760s.<sup>36</sup> "Developed gradually, the division came to be defined as a distinct, permanent, more or less equal part of an army ... and possibilities were opened for the commander in chief."<sup>37</sup> The system of divisions was formalized during the French Revolution to handle the expanded size of a mass army.<sup>38</sup> Clearly, the division was created to provide an interim level of command and control between regiment and army to handle increased difficulties posed by increased time and space relationships.

The tactical possibilities associated with the division were not immediately recognized as the concept was instituted. In 1772 Guibert realized the division's capability for independent movement. His "emancipation of the division" from the bonds of the march table freed its capabilities for the tactical commander.<sup>39</sup> His understanding of the independent movement possibilities of the division allowed the French to move units smaller than armies on separate march routes. It took Napoleon, twenty years later, to realize that the division was the gift of organization that allowed him to create the corps.

The division and the corps provided the levels of command and control necessary for Napoleon to dominate Europe for nearly twenty years. He grouped two to

three divisions into each corps. At the army level, however, he typically controlled eight corps, but at one point controlled fourteen.<sup>40</sup> It is obvious from Napoleon's success that a fixed span of control figure of two to five did not apply to all levels during this period in history.

The European powers adopted Napoleon's division and corps force design as a result of his success. Clearly, mass armies were characterized by the need for greater space and therefore a new system of command and control was required. The division as an intermediate level of command and control was the organizational change that was needed to compensate for the huge injection of numbers offered by the rise of mass armies. The corps was the next logical step beyond the division.

The rise of mass armies in the United States during the American Civil War required the same system of command and control developed by the French seventy years before. Fortunately, the majority of the senior leaders on both sides had attended the United States Military Academy at West Point, NY. The textbook used by Professor Dennis Hart Mahan, the Professor of Civil and Military Engineering and the Science of War, was Jomini's, The Art of War, which exposed them to the division and corps.<sup>41</sup>



During the Civil War, the basic command and control functions of the division and the corps essentially remained the same. In addition, the brigade was used between the division and the regiment just as it had been in Napoleonic armies.<sup>42</sup> The minie ball, rifled muskets, the telegraph, signal flags (semaphore), and the railroad all either caused or facilitated dispersion of forces over time and space. These technological advances did not create a need for organizational change, rather they fit the organizational capabilities of the division to command and control over a more dispersed battlefield.

To this point increased requirements for space necessitated the need for new command and control levels. The division and the corps had been the answer. Technology caused and allowed the division and the corps to perform over greater time and space dimensions, but never beyond their capabilities. The levels of command and control established in the American force design were the army, the corps, the division, the brigade and the regiment. Even though all five of these levels of command and control were not exercised over the next fifty years, they did exist in the American military experience.

World War I saw no real change to the command and control capabilities of the corps, division, and brigade. The expansion in space and the advances in

technology had not challenged the requirement for the division in the 150 years since de Broglie and de Chosieul initiated the concept. Battle was still a linear affair that required more and more space due to advances in technology. The American approach to the problems posed by time and mass was to create large divisions of 28,000 men that were two to three times the size of a European division.<sup>43</sup> This simple application of mass and improved firepower helped to break the deadlock of the trenches in 1918.<sup>44</sup>

The American division of World War I had very little to command and control in terms of synchronizing battlefield operating systems (BOS). It was responsible for only the close fight. It possessed four maneuver regiments, a division artillery brigade, an engineer regiment, and a few combat service support units, that really served as reception points for army supply base supplies.<sup>45</sup> Even with its great size, the command and control capabilities of the World War I division were hardly challenged by the environment in which it operated.

The American infantry division underwent a design change prior to entry into World War II. The number of infantry regiments decreased from four to three. There were three reasons for this change. First, the "triangular" division was believed to be more flexible and maneuverable than the "square" division of World

War I.<sup>46</sup> Second, in a mobile war there were less requirements to mass in the trench warfare sense. And third, the country needed more divisions and the fourth regiment of each division could be used to form the additional divisions.<sup>47</sup>

A new type of division, the armored division, was created as a result of a technological innovation - the tank. In armored divisions three combat commands, instead of three regiments, provided mobile, self-contained units capable of maneuver into the depth of the enemy's tactical formations. The combat command was, however, only a task organized formation dependent upon its division's slice of combat service support units.

Space, time, and mass requirements during World War II did not exceed the corps or divisions capabilities to command and control effectively. In fact, the brigade level had been removed because of the reduction in regiments within the division and the advances in communications technology.<sup>48</sup> By depending on the army for combat service support units, division and corps commanders had tight control over minimal units designed to do a relatively simple task.<sup>49</sup> In other words, during World War II, divisions were reduced in size, they lost one level of command and control, they depended on army for logistical support,

and they operated over a wider distance than during World War I.

The next major force design change based on space, time, and mass realities occurred after the Korean War. Possession of nuclear weapons by the Soviet Union changed the concept of future war. Consequently, Army force designers produced a division designed to fight and win in a nuclear environment.<sup>50</sup>

The new "Pentomic" division departed from tradition in three areas. First, it accepted nonlinearity as a function of dispersion. Second, it increased the span of control to five maneuver units. Lastly, it defied tradition by eliminating several levels of command and control.<sup>51</sup>

These three concepts were the "Pentomic" division's downfall. The Army did not possess a significant history of nonlinear experience with the exceptions of police actions. The increase in span of control to five units bucked the trend during World War II of three being optimal.<sup>52</sup> Finally, a tradition bound organization like the Army could not bear to see its traditional four tactical levels replaced by only two (see figure 1.)<sup>53</sup>

<u>WW II C<sup>2</sup> Levels</u>	<u>Pentomic C<sup>2</sup> Levels</u>
Corps -----	na---
Division	Division
Regiment -----	na---
-----	Battlegroup
Battalion -----	na---

figure 1.<sup>54</sup>

Divisional force design since the "Pentomic" concept has undergone significant change in the areas of combined arms and combat service support. Under the ROAD concept the division received an organic division support command.<sup>55</sup> The impact of maintaining a support base brought with it the anchor of immobility.

The current division design also has organic units that cover all seven battlefield operating systems. (see figure 2.) This increased capability has forced the division to lose its focus on close operations. The simple organization envisioned by World War II force designers must now focus on three separate operations while trying to use the mobility inherent in its mobile combat units.<sup>56</sup>

BOS  
Maneuver  
Fire Support  
Air Defense  
Mobility, countermobility, and  
survivability  
Intelligence and electronic warfare  
Command and control  
Combat Service Support  
figure 2.

The Soviet Union approached force design from a World War II perspective. At various periods during the war their structure below front level resembled the structure of many allied nations. However, as the war developed their armies, divisions, and regiments remained designed to fight the linear battle while formations such as the corps and the brigade were

self-contained, highly mobile formations, whose mission was to penetrate into the enemy's tactical depth.<sup>57</sup>

Since the regiment and the brigade were roughly equivalent in size it was difficult to distinguish one from the other on the battlefield except by determining its combined arms structure. The corps, however, had no similarly sized organization. So if a corps was not constituted for a special mission, the Soviet command and control levels from army to battalion were one less than the United States Army's levels of command and control. The Soviets formalized this structure after their attempts to design a force for the nuclear battlefield failed to meet the needs of the future conventional battlefield.<sup>58</sup>

Comparing the two methods of command and control it is possible that if all things were equal (equipment, training, C<sup>3</sup>I systems, etc) the Soviet division might be able to implement a decision more quickly than an American division. The Soviet division could be acting on an order while the American division would still be waiting for corps to disseminate its order.

Currently, both the United States Army and the Soviet Army are visualizing a future battlefield that is strikingly similar. Forces will resemble "Pentomic" battle groups or the Soviet corps of World War II. They will have to be smaller in size, highly mobile,

and self-contained for sustainment.<sup>59</sup> The Soviets have an advantage in that they have already eliminated a level of command and control. Can the United States Army do the same?

Before analyzing the division in terms of its ability to function in an environment dominated by time, space, and mass, it is important to review what drove organizational change. Four critical trends follow from this review of the evolution of the division.

1. Larger armies required more space. Since available control technology was not effective, additional levels of command and control had to be created.
2. Span of control at the tactical level does not historically have an optimal number.
3. Traditionally, self-contained, combined arms formations have had exploitation or pursuit missions. Linear combat forces have best operated in simple, single mission environments.
4. As speed of equipment and communications have improved, the tendency has been to retain traditional structures and not gain a time advantage from the control technology.

Now that the relationship between historical force design and the criteria has been established, it is necessary to perform an analysis of the two within the context of AirLand Battle - Future.

## V. ANALYSIS

"Within this gigantic battle zone, the maneuver of armored brigades and battalions will be like that of trench raiding parties in the Great War, violent, but a tiny part of the overall struggle.<sup>60</sup>

The ALB-F battlefield with its nonlinear aspect will be "empty." By giving a division an area that was previously assigned to a corps, nonlinear battle will exist simply because the division will have a larger space with less mass (loss of aviation and support units). Can the division control operations over such a vast area? The answer is found through analysis of communication systems and the ability of the division to handle a large number of avenues of approach.

FM radio communication systems are line-of-sight and have a range limitation of approximately twenty-five kilometers. The new Mobile Subscriber Equipment (MSE) organic to a division will only cover the current doctrinal division sector. For the ALB-F division to cover the same area as a corps it would need the same amount of MSE nodes as a current corps is assigned. In fact, in ALB-F MSE will be centralized at corps, thus removing the necessity for the division to control communications within its sector.<sup>61</sup>

These communication system limitations indicate that a division would have difficulty communicating over increased space. This limitation runs counter to



the need for ALB-F divisions to have "reliable control systems with long range communication capabilities."<sup>62</sup>

The second major space consideration revolves around the increase in avenues of approach that a division would be responsible for. Currently, a division controls approximately four to six regimental size avenues of approach. By more than doubling the size of the division's sector the number of avenues of approach also double. A division with three maneuver brigades will surely soon have three committed brigades in nonlinear combat. S.L.A. Marshall said that, "more than any other distraction in war, the unit cut off and fighting for its survival is likely to make a battle plan fall apart."<sup>63</sup>

ALB-F conduct of the tactical offense further demonstrates the insufficient need for the division as a level of command and control. The brigade focuses only on the close operation. The corps maneuvers brigades based on its deep operation to destroy the limited enemy units that survive the corps' lethal long range fires. Since the focus of the division would also be the close operation, inasmuch as it possesses no deep operation assets, why maintain the redundancy in close operation headquarters?

Both of these considerations do not even contemplate the enemy's capabilities to isolate a unit through radio electric combat (REC) or to mass against

a single brigade along many avenues of approach. The dispersion over space appears to have exceeded the division's ability to command and control forces over such great distances (space).

Time, the second criteria, is undoubtedly the most important. "Combat activities are always slower, less productive, and less efficient than anticipated."<sup>64</sup> The only means to gain time is to either to create a flat-topped organization or to utilize improvements in C<sup>3</sup>I technology.

Flat-topped organizations use C<sup>3</sup>I technology to reduce the number of command and control levels while additionally supporting a larger span of control.<sup>65</sup> This is the method the Soviets have used in eliminating the corps as a fixed level of command and control. They have, however, become so dependent on C<sup>3</sup>I that a front commander has the capability to "see" down to battalion level with a "directed electronic telescope."<sup>66</sup>

This use of C<sup>3</sup>I technology is counterproductive to tactical success. Regularly, bypassing interim levels of command and control creates synchronization problems for intermediate commanders. The result directly affects their use of time as decision cycles are interrupted by their senior commanders dealing directly with their subordinate units. If this communications bypass is possible on a regular basis, then the

intermediate level of command and control is a candidate for elimination in order to save time. "The value of automated C<sup>3</sup>I is most closely connected with that most vital factor on the battlefield - time. In war, time is most precious of all."<sup>67</sup> Flat-topped organizations must have simple command and control systems that are designed to work on less information.<sup>68</sup>

The second option is to maintain the current number of command and control levels and to take advantage of advances in C<sup>3</sup>I technology. The problem is that regardless of how much data your machines can process, the output must still be analyzed by man. "Technology certainly [has] a place in this picture; but it [is] man himself who provide[s] the most important element."<sup>69</sup> Commanders at each level typically operate at a 1/3 - 2/3's rule for planning. The time savings in eliminating a level of command would be significant.

Flattening the organization by reducing the number of command and control levels appears to best fit the ALB-F requirement for command and control systems that are versatile, agile and capable of rapid decision making.<sup>70</sup>

Mass is the last criteria. ALB-F has been described as a corps commander's fight. A fight where he maneuvers brigades into conditions he sets through

the application of deep assets that only he controls. The only role for the division is to provide oversight for a particular portion of the corps commander's sector. Since the brigades will be maneuvering over space to mass at decisive points in time and they will be self-contained and tailored for the mission, what will the division commander have left to maneuver? The answer is simply nothing. Additionally, he will not control the reconstitution efforts since he does not own logistical support units.

When compared to the four trends identified in the preceding chapter, the reasons to eliminate the division discovered through evaluation of the criteria become even more apparent. First, most armies see the reality of smaller force structures and are designing forces for nonlinear combat. This simple fact indicates that since each level of command and control takes up space, elimination of a level would not be a luxury, but a requirement. Instead of gaining a great amount of redundancy with improved command and control systems, they should be used to our advantage by eliminating a level of command and control and thereby gaining time.

Second, span of control appears to be a function of the command system. Napoleon operated with eight corps. Meade fought seven corps at Gettysburg.<sup>71</sup> Ridgway sometimes had six divisions in his corps in

World War II.<sup>72</sup> A current corps commander has six or seven maneuver elements under his command. Clearly, advances in communication technology allow for a larger span of control. If, however, the Army favors the retention of traditional organizations, then it may never realize the real gains from advances in control technology.

Third, the current trend is towards self-contained, highly mobile units. Since the division will simply be a tactical headquarters, it does not fit the description of an ALB-F unit. It performs the same job that an assistant corps commander could accomplish as the corps commander's "directed telescope."

Finally, the division essentially fulfills a redundant function considering the advances in command, control, communication and intelligence technology. A brigade with a Joint Strategic Target Acquisition Radar System (JSTARS) terminal could have direct access to essentially the same information that the corps commander receives.<sup>73</sup> Likewise, the corps commander can monitor the status of each of his brigades without consulting the division by simply querying the Maneuver Control System (MCS).<sup>74</sup>

Simply put, since the division will not play a critical role in ALB-F, eliminate it to gain the advantages that technology has provided.

## VI. IMPLICATIONS AND CONCLUSIONS

"At every crossway on the road that leads to the future ... each progressive spirit is opposed by ... a thousand men appointed to guard the past."<sup>75</sup>

The purpose of this monograph has been to evaluate whether or not the division can be eliminated as a command and control level within the context of AirLand Battle - Future. First, the criteria, space, time and mass, were defined. Second, ALB-F was described to furnish the context for evaluation. Third, the evolution of the division was traced in order to demonstrate the relationship between the criteria and organizational change. Finally, the criteria were applied to the division within the context of ALB-F. This chapter highlights the implications and conclusions resulting from the evaluation of the thesis against the criteria.

The implications of eliminating the division as a level of command and control are threefold. First, redundant, nonessential levels of command and control disappear. In the past each organization had a small span of control and a physically close relationship to its subordinate and higher units. This close distance resulted from the limited ranges of C<sup>3</sup>I systems and the linear nature of the battlefield.

ALB-F nonlinearity dictates that physical proximity will not be the norm. Consequently,

redundancy will have less importance because advanced C<sup>3</sup>I systems possess a greater range and improved capabilities that support a larger span of control.

Second, a mobile, nonlinear battlefield demands quick decision making. Elimination of a level of command and control quickly lowers the time required for planning and executing operations.

Lastly, traditional positions associated with certain ranks would be affected. For example, the need for a division commander would be eliminated. This simple adjustment could cause the same type of backlash that elimination of the battalion under the "Pentomic" concept did.<sup>76</sup> Figure 3. illustrates a possible remedy to rank and command progression created by this proposal.

<u>Rank</u>	<u>Current System</u>	<u>Proposed System</u>
LTG	CORPS CMD	CORPS CMD
MG	DIV CMD	CORPS ADC (STAFF)
BG	DIV ADC (STAFF)	BDE CMD
COL	BDE CMD	BDE DEP (STAFF)
LTC	BN CMD	BN CMD
MAJ	BN XO (STAFF)	BN XO (STAFF)
CPT	CO CMD	CO CMD
1LT	CO XO (STAFF)	CO XO (STAFF)
2LT	PLT LDR	PLT LDR

figure 3.<sup>77</sup>

The conclusions drawn from the evaluation of the thesis using the criteria of space, time, and mass are also threefold. First, the advances in C<sup>3</sup>I technology allow the corps commander to see his zone of operations better than ever before. The division takes up

unnecessary space and performs a function that could be just as well performed by a deputy corps commander.

Second, maintaining the division as a level of command and control simply wastes time in the planning process. Current control systems such as MCS and JSTARS allow the brigade and the corps commanders to fight without need of an intermediate level of command and control between them.

Finally, since ALB-F envisions the brigade as the force that fights the corps commander's battles, just what is the role of the division? Clearly, it is the role of the corps commander to mass brigades over time and space to defeat the enemy in the close operation. Maintaining the division, simply complicates events that could benefit from the simplicity provided by fewer command and control levels.

The Army already has an organization that is designed to work directly with the corps - the separate brigade. The separate brigade is a self-contained, mobile unit that is capable of independent maneuver. A separate brigade has subordinate units that represent all of the battlefield operating systems just as the current division does. This four-battalion brigade, commanded by a brigadier general instead of a colonel, could, in fact, be given a full cavalry squadron and a light infantry battalion as a result of the increase of current C<sup>3</sup>I capabilities.



The deployment of six separate brigades to Saudi Arabia would increase the number of battalions by four and the number of tanks by 112 (relative to the example given in the introduction). Additionally, reserve component units would not effect the deployment in the same manner they have effected the deployed divisions.

Therefore, based on all contingency deployments since 1975 and the requirements of ALB-F, I recommend that the division be eliminated as a level of command and control in favor of a structure that features a corps consisting of six separate brigades.

This is the intent of ALB-F. The problem is, can we overcome the effects of tradition to gain the potential benefits that technology has provided?

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